

CAROL EDGECOMB BROWN

Frederick Albert Edgecomb: A Lighthouse Service Career, Hawai'i 1911 to 1942

FREDERICK ALBERT EDGECOMB, civil engineer and a leader of lighthouse growth in the Hawaiian Islands, devoted over 30 years to the Lighthouse Service of Hawai'i. His lengthy career was filled with adventure and accomplishment. The valuable skills that he brought from New England enabled him to become a major contributor to the development of lighthouses in the Hawaiian Islands. The following material is taken from his notes, his collection of old photographs, personal tapes recorded in 1968, and various interviews. This article is not intended to be a complete history of Hawaiian lighthouses. Instead, it is a personal account of my father who dedicated his life to the improvement of aids to navigation in the Hawaiian Islands from 1911 to 1942.

Edgecomb was born in Groton, Connecticut, in 1887, and completed his early education in Groton and nearby New London. In 1908, he graduated from Brown University, Rhode Island, with a B.S. degree in civil engineering. Following graduation, he was employed by the U.S. government and worked for two years with the Engineering Department of Fortifications on Long Island Sound, New York. Good jobs in his field were scarce at that time, and from a fellow

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worker he learned that he was eligible for a position in the lighthouse service in Honolulu, Hawai'i (fig. 1). He commented on the decision to pursue this new opportunity:

I made plans to go to the Islands at a period of time when my parents were away on vacation. Naturally they were concerned and wondered why I should make a long trip away from home like this but I had made up my mind. It was necessary for me to take six weeks of training with the Lighthouse District on Staten Island, New York. I was then dispatched to my new job, which meant going overland by train to San Francisco, then on to the Sandwich Islands by ship.¹

An interesting episode that I remember my father relating had to do with his initial arrival in Honolulu on November 11, 1911. He had just disembarked from the Matson ship *S.S. Sierra*, and was dressed as a typical New Englander wearing dark clothes and a derby hat. As he walked along Fort Street, he was approached by a tall imposing



FIG. 1. Frederick Albert Edgecomb (1887–1972) Superintendent 19th Lighthouse District, Hawaiian Islands, 1930–1939. In his office, Federal Building, Honolulu, Hawai'i. *Sales Builder*, Mar. 1939: 5.

Hawaiian man who asked: "What are your intentions young man and how long do you expect to stay in the Islands?"² It had been a seven-day voyage from San Francisco, and my father, who was 24 years old at the time, was uneasy about the nature of the Hawaiian's questions. He assured the man that he had been hired in New York to serve as a civil engineer with the 19th Lighthouse District in Hawai'i. My father always told this story with a twinkle in his eye, stating: "Later I found out that the interrogator was one of the secret service men of the Honolulu Police Department who apparently met all suspicious looking characters arriving in Honolulu, especially those wearing derby hats."³ Edgecomb was uncertain as to the length of his stay in the Islands, and he did not know that Hawai'i was to be his home for more than 30 years. His initial impression of Honolulu was quite positive:

I found Hawaii delightful, although rather primitive. We did have automatic telephones, which was a surprise. Living conditions were favorable and I soon settled down into the routine. At that time the Lighthouse Office was located on the third floor of the McCandless building which was near the center of the city. When the new Federal building was built on King Street, we moved our office to that location.⁴

During the early years, from 1911 to 1913, my father worked as a junior engineer and construction foreman, a job that involved field-work. From 1913 to 1918, he served as assistant superintendent, with increasing responsibilities on the outlying Hawaiian Islands. In 1919, Fred Edgecomb married May Sutherland, great-granddaughter of the early Hawaiian missionaries, Sybil and Hiram Bingham. Due to illness during World War I, his time in the U.S. Army was brief, and in 1920 he resumed his career with the Lighthouse Service, again as assistant superintendent. In 1930, he was promoted to the position of superintendent of the 19th District, the largest in the United States Lighthouse Service. The 19th District covered a vast area of the Pacific, encompassing all of the Hawaiian Islands, Midway, Guam, the Line Islands, and the American Samoan group. His responsibilities were far reaching and demanding. Ultimately, in 1939, the Lighthouse Service merged with the United States Coast Guard, and Edgecomb assumed the position of commander in that branch of the military. As commander (Aids to Navigation officer), and in addition to his previous lighthouse responsibilities, he acquired the title of Captain

of the Port of Honolulu. He served until February 1942, at which time he and his family moved to Long Beach, California. After four years of service on the West Coast, he retired from the United States Coast Guard in 1946.

ISLAND OF O'AHU

Three primary lighthouses operating on the island of O'ahu when my father arrived in the fall of 1911 were located at Barbers Point, Diamond Head, and Makapu'u Point. The Honolulu Harbor Light Station on Sand Island, though less impressive to view, was of vital importance to all ships entering the sheltered harbor. The Barbers Point Light was built in 1888, followed by the Diamond Head Light in 1899, the Makapu'u Light in 1909, and the Sand Island Light in 1910.

Barbers Point Light Station

The original lighthouse at Barbers Point was built under the jurisdiction of the Hawaiian government in 1888. As the volume of shipping activity increased in the waters around Honolulu, it became obvious that the light at Barbers Point was inadequate and improvements were needed. My father was assigned to oversee the reconstruction project that began in July 1912. The plan was to remove the top of the old coral tower and to recap it with a concrete platform large enough to accommodate an updated illuminating apparatus. To accomplish this, Edgecomb hired a crew from an island construction company. In addition to the local workman, two mules and an old wagon were provided. The country road from Honolulu was about three miles away from the lighthouse. From that road, the only access to the lighthouse was across a rough coral ledge. By the time the project was completed in 1912, a fairly good road had emerged, but Edgecomb reported that the wagon did not fare as well—it was completely ruined!

A temporary wooden tower was built, and the original lens and lantern were moved to that structure, enabling the old light to continue its necessary function of warning ships to avoid the dangerous offshore reef. This procedure was employed throughout the Islands during the period of time when the Lighthouse Service replaced deteriorating facilities. The newly reinforced concrete platform at the top



FIG. 2. Barbers Point Light Station, O'ahu, 1933. The old and the new towers were located side by side before the old tower was demolished. Edgecomb collection.

of the old tower displayed an upgraded service room in which was installed a fourth-order Fresnel lens with an incandescent oil-vapor lamp.

Sam Apollo Amalu, an early light keeper, worked alone at Barbers Point from 1911 to 1914. He was an active participant during the reconstruction phase in 1912. His distinguished career in the Lighthouse Service spanned a period of 33 years, from 1906 to 1939. My father often expressed admiration and praise for Amalu's hard work and dedication to his job.

Improvements were made at Barbers Point Light Station in 1915 with the building of a new house for the light keepers. The installation of a water system provided indoor plumbing for the resident keepers.

Minor changes were made at the Barbers Point Light Station during ensuing years, but by 1930 plans were underway for the construction of a new lighthouse. It was determined that a taller, more efficient lighthouse was needed, and the old coral structure was ceremoniously leveled. When the 72-foot concrete tower was completed, the original fourth-order Fresnel lens was carefully transferred to the new lofty location. It was on December 29, 1933, that the lighthouse became operational. Again Fred Edgecomb was vitally involved with the planning and execution of the modernization project at Barbers Point Light Station (fig. 2).⁵

Diamond Head Lighthouse

From its inception in 1899, the Diamond Head Lighthouse retained its distinction as a first class light. It was a familiar sentinel, the guiding beacon for ships approaching the Islands. As years passed, the lighthouse began to exhibit signs of deterioration, and in 1916 Fred Edgecomb conducted a detailed inspection of the structure. The Light House board decided that it was necessary to replace the original coral rock tower. After funding was approved in 1917 and plans were completed, construction began at Diamond Head. The reliable third-order Fresnel lens and lantern apparatus and its enclosure were moved to a temporary structure, enabling the light to function continuously during the building of the new reinforced concrete tower. The final renovation of the lighthouse occurred in 1918. A house for

the light keeper was completed three years later in 1921. During the 1930s, when my father became superintendent in the Lighthouse Service in Hawai'i, it was the Edgecomb family's privilege to live in the same dwelling within the shadow of the famous Diamond Head Lighthouse.

Makapu'u Point Light Station

A powerful light beacon at Makapu'u Point was established in 1909. The unique, over-sized lens and lantern of the lighthouse were supported by a 35-foot tower creating a spectacular landmark on the lava cliffs. The Light House board had made plans for the construction of a lighthouse at Makapu'u as early as June 1906. When an accident occurred later that same year, the urgency of the plans became even more apparent. On August 20, 1906, the Pacific Mail steamship *Manchuria* became stranded on a reef just north of Makapu'u Point. Eventually the ship was salvaged and towed to Honolulu Harbor.

A series of difficulties involving funding, legislative conflicts, and shipping problems, delayed the final completion of the lighthouse until October 1, 1909. At that time, the light station at Makapu'u included several maintenance buildings, a barn, an area for horses, mules, and wagons, and three dwellings for the light keepers. These structures were located about 1,200 feet above the light tower that stood apart on a windswept point below. The keepers' comfortable two-bedroom homes had attractive lava rock exterior walls constructed with material from the immediate area. With appealing front porches, white trim, and red-shingled roofs, the houses created an interesting contrast to the stark rugged landscape.⁶

Originally the water for the light station was pumped from existing water tanks located near the boat landing at the Waimānalo Sugar Plantation about four miles from the lighthouse. Owing to the fact that the water supply proved inadequate for the keepers and the arrangements with the Waimānalo plantation were not satisfactory, it was decided that an independent source of water was needed for the light station. The potential use of water from a spring located in the mountains above the plantation was investigated. An early survey had been made prior to my father's arrival in Hawai'i, but due to various problems it was unsuccessful, and a second survey was necessary.

One of Edgecomb's early assignments in 1912, not long after his arrival in the Islands, was to work on the water system at Makapu'u. He and a work crew were dispatched to Waimānalo. By using his engineering skills, he and the men were able to complete a successful re-survey. My father explained some of his difficulties:

I found things rather primitive outside the immediate vicinity of Honolulu. There were only a few cars, practically no trucks or good streets—only rough country roads. We had to use horses and buggies, and just to get to Waimanalo was really a project.⁷

Once there, the men found it difficult to retrace the original eight-mile-long survey. The first challenge was to study the old survey and to locate the route that led through established cane fields, dense brush, and up the mountain to the source of water. The goal was to determine a workable method of directing the water from the spring by using gravity flow supply down the mountain and over some hills to sea level below. Further complicating the project was another engineering challenge that involved getting the water up and over the summit at Makapu'u and then on to the light station, located at an elevation of about 450 feet. In 1916, after the successful re-survey was completed and numerous other technical problems were resolved, the water system at Makapu'u Light Station ultimately proved to be more than adequate for the families living in that remote area. Edgecomb reported:

To avoid the loss of the continual gravity flow water supply at the Makapu'u light station (which was quite an accumulation in twenty four hours), we were able to use the excess water for other purposes and could assist the Army in their maneuvers by allowing them to tap into our lines at any point during the eight mile distance from the spring.⁸

He also reported that the man who was his immediate superior at that time had been extremely doubtful as to the success of piping spring water to the Makapu'u light station from a distance of about eight miles. The workers who labored together to procure that scarce and valuable commodity, clear, drinkable water for such an inaccessible, arid location, must have felt the rewards of their accomplishment.

Honolulu Harbor Light Station

In 1906, plans were proposed for the transition from a simple, primitive light in Honolulu Harbor to a permanent, efficient light station. The following year, the harbor was dredged, providing a deeper port for large ships. Material created from the dredging was added to the existing Quarantine Island, that in turn was called Sand Island. It was on Sand Island that the Honolulu Harbor Light station was built. The beacon went into service on February 15, 1910. Although of vital importance to all shipping in the Islands, it did not compete with its far more romantic and visually appealing sister light towers on O'ahu. After several years, the sturdy building, that had become the well-known Honolulu Harbor Lighthouse, almost resembled a home, complete with a gate and white picket fence.⁹ The lower portion of the structure provided living accommodations for two light keepers. The lofty illuminating apparatus above the dwelling housed the necessary guiding light for all ships entering the busy harbor.

ISLAND OF KAUA'I

Kīlauea Point Light Station

By the early 1900s, the waters surrounding the Hawaiian Islands were becoming increasingly vital to shipping lanes in the Pacific, including those to Asia. The island of Kaua'i, being the most westerly of the principal islands in the chain, was extremely important to the development of navigational aids. Spectacular Kīlauea Point on the north shore was chosen for the site of a new lighthouse. In 1912, Assistant Superintendent Frank C. Palmer and his crew began construction of a light station on the scenic bluff. Access to many lighthouses in the Islands often proved difficult, and getting to Kīlauea was no exception. The delivery of building material was a major challenge to overcome, as the location of the proposed light was not only atop a rugged cliff, but also was some distance from the harbor at Nāwiliwili. In order to expedite the delivery of supplies, a landing area with a derrick was built on a narrow ledge below the construction site. For 15 years, the lighthouse tender *Kukui* (fig. 3) delivered equipment and supplies to the light station on a regular basis by means of offloading

material to a small cargo boat that could approach the rocky shore. The derrick then transferred the material from the small boat to the landing area. During violent winter storms and when the seas were high, the procedure was extremely dangerous, if not impossible.¹⁰

Edgecomb's primary responsibility during the early days of the project at Kilauea was that of procuring, organizing and dispatching equipment and supplies from Honolulu Harbor to Kilauea Point via *Kukui*. This involved all construction material for the light tower, the lenticular apparatus, and buildings for the station, including dwellings of three light keepers. Although he was not at the light station on a daily basis, my father made many trips to Kilauea Point. One such trip occurred after he received an urgent message in Honolulu from Supervisor Palmer on Kaua'i for help in assembling the unique lens apparatus. It was designed and manufactured in Paris, France, and had been transported across the Atlantic and Pacific Oceans. All of

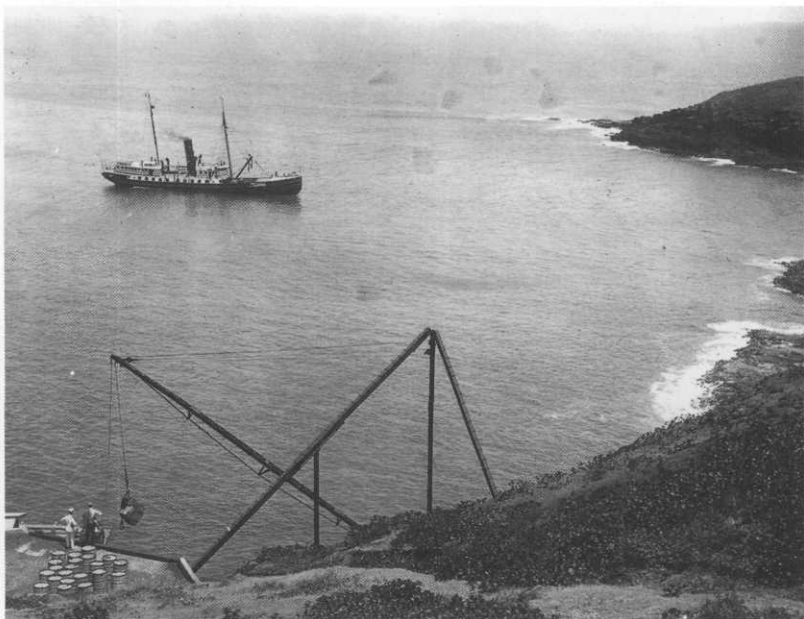


FIG. 3. The lighthouse tender *Kukui* anchored off Kilauea Point Light Station, Kaua'i, circa 1913. Edgecomb collection.

the instructions for assembling the complicated lens and accompanying parts were written in French! On extremely short notice, Edgecomb was able to secure passage to Kaua'i on an inter-island ship that delivered him to Anahola Bay, a landing area between Kilauea and Nāwiliwili. From there, he traveled about 15 miles by horseback to the light station.¹¹ Evidently his engineering skills acquired from Brown University, and his acquaintance with the French language, enabled him to help the work crew accomplish their goal. Kilauea Point Lighthouse became fully operational in May 1913. Additional work at the light station, including the construction of service buildings and three houses, continued until 1915.

KA'ULA

Ka'ula Light

Ka'ula, Lehua, and Ni'ihau are three small islands southwest of Kaua'i. Ka'ula, often called Ka'ula Rock, is located 22 miles from the island of Ni'ihau and about 150 miles from Honolulu. One of my father's most challenging assignments during the 1920s took place on the tiny islet of Ka'ula. As early as 1921, the Light House board decided that a navigational light was needed on Ka'ula. Two attempts for a survey of the island were unsuccessful owing to dangerous landing conditions on the treacherous shores.

It was determined that aerial photographs were necessary as the first step in plotting a specific location for the proposed light. This was accomplished by means of an unusual procedure. Air transportation was in its infancy in the early 1920s. From its base on O'ahu, the Army Air Service provided a DH two-seater plane that was loaded onto the lighthouse tender *Kukui* docked in Honolulu harbor. With its valuable cargo secured aboard, *Kukui* proceeded to the island of Kaua'i, landing at Ahukini harbor where the plane was unloaded. An airfield was established nearby, and on July 10, 1924, two men completed the round trip flight between Kaua'i and Ka'ula. Throughout the duration of the flight of approximately 50 miles, the tender was stationed between Ni'ihau and Ka'ula. She remained on alert and in position until she received radio confirmation of the successful completion of the flight. Three official Army aerial photographs were taken that

day, and the plane returned to Ahukini harbor. Once again the plane was secured on the deck of *Kukui* and was then transported back to Honolulu.¹²

Exactly one year later, on July 10, 1925, *Kukui* returned to Ka'ula with men and equipment prepared to establish a landing and a route to the top of the islet. My father, as assistant superintendent, was in charge of the construction team. The ensuing 11 days presented a variety of challenges for all involved with the project. A landing site was the immediate concern. High seas and great swells pounding against the north and east points of the crescent shaped rock made landings extremely difficult. Edgecomb wrote:

The south and west sides, which are the lee sides of the island, are very precipitous, and while landings can be made on projecting shelves at some points, the top of the bluffs are particularly inaccessible due to the vertical and overhanging formations.¹³

Two unsuccessful landing attempts were made the first day. The third try on the west side of the island was more promising. However, after climbing about 200 feet the men were unable to scale the rocky bluffs. The following day another successful landing was made on the southwest portion of the islet. Two ledges provided an access up the cliff to approximately 60 feet below the top of the island. Steps were built leading to a vertical cliff where the crew constructed a scaling ladder, enabling my father and a few men to reach the 548 foot summit of Ka'ula.¹⁴

The *Lighthouse Service Bulletin* dated October 1, 1925, reported:

Assistant Superintendent Edgecomb with transit and stadia (a method of surveying distances with a telescopic instrument) made a supplementary survey of the crown of the island, checking the aerial survey already made and correcting the map scale and azimuths. Only small areas at the top afford comfortable walking, much of the surface consisting of steep slopes and sliding stones.¹⁵

In my father's memorandum regarding Ka'ula, he stated:

On the summit at the north end of Kaula Rock the remains of several stone enclosures were found, showing unmistakable evidence of hav-

ing been built by human hands. These may have been prayer shelters, heiaus, or even ruins of forts as they are located in echelon, just at the top of the bluff where a trail would come out from the north landing. Certainly these walls have not been used or repaired in this generation.¹⁶

It was his opinion that only Hawaiians would have been able to reach the top of the rock. He even advanced a theory that the word "ka'ula," which means rope in Hawaiian, might indicate that a rope was the only means of scaling the bluffs. In 1925, the lighthouse work crew employed a rope to gain access to the rugged landing site. The first man to land, either by swimming or jumping from the cargo boat, secured a rope on the rocky ledge, then swung the rope out to the remaining men in the small boat. This was the method used for men and equipment landing during the initial survey expedition in 1925 and at the later date, in 1932, when the light was constructed.¹⁷

The rugged terrain of the island made camping impossible for the work crew. For the duration of the project the men returned nightly to *Kukui* by means of the small cargo boat. Fortunately, good anchorage was found about a thousand feet offshore; however, according to my father, the ship at night occasionally was dragged to a new anchorage due to strong currents and wind. Despite rough seas, difficult landings, dangerous working conditions, and an extremely harsh environment, the construction team accomplished their assignment. It had taken 11 long days of hard labor to complete the survey, establish a landing site, and build a trail to the crest of the island.

Ironically, the light tower and four small service enclosures on Ka'ula were not built until seven years later, in August 1932. When finally completed, the lighthouse beacon was located at an elevation of 562 feet.¹⁸ Superintendent Edgecomb was in charge of operations from his office at that time, but he remained actively involved with the construction of the lighthouse and service buildings on Ka'ula. He was recognized in a personal letter from George Putnam, U.S. commissioner of lighthouses, for his efforts in establishing the Ka'ula light.¹⁹ As technology advanced, the light was no longer needed. When it was discontinued in 1941, an intriguing chapter in the history of Hawaiian lighthouses was ended.

LEHUA

Lehua Light

Lehua is located west of Kaua'i and less than a mile north of Ni'ihau. A navigational aid in the area was frequently requested by shipping companies using routes to Asia and the western Pacific. Ni'ihau, a small private island owned by the Robinson family, was not available for use by the Lighthouse Service. Lehua was chosen for the location of a new light. In preparation for the construction project, a landing area was selected along the south shore providing favorable anchorage for the light tender *Kukui*. From this offshore location the cargo boat with men and supplies were able to unload construction material on the small beach. My father stated:

We had to pack our supplies by manpower to the top of the hill. The reason we could have lights that high was because we had no fog in the Hawaiian Islands. The higher the light, the longer the visibility for the small light we were putting up.²⁰

The light on Lehua Rock has the highest beacon operating in marine service. It is situated on a narrow ledge along the crest of the small islet at an elevation of 698 feet. The light became operational in April 1931 and was visible for about 15 miles at sea according to Edgecomb. The small service buildings and a derrick were built 60 feet above the landing area. Gas was piped from there to the beacon at the top of the hill. *Kukui* made semiannual trips to service the isolated lighthouse. A modern light is in operation at present and is maintained by U.S. Coast Guard personnel using a helicopter to land on the narrow crest of Lehua Rock.

ISLAND OF MOLOKA'I

Kaunakakai Harbor Range Lights

In ancient times, Hawaiian canoes landed at Kaunakakai on the southern shores of Moloka'i. Primitive lights guided sailing ships through shallow channels in the 1880s. In later years, inter-island steamers anchored off shore in the harbor. A system of two range lights was devised, enabling members of the crew to sight a safe passage by align-

ing the lights as they approached the landing at Kaunakakai. Minor changes were made to the lights in 1907. When it became necessary to upgrade the navigational aids to the harbor in 1912, my father was assigned to the job. He reported:

We built two range lights in three weeks time. The rear range light, a 44-foot steel tower, was constructed on the ground and then raised into position. The new acetylene gas light flashed 30 times per minute during night hours and was extinguished automatically by a sun valve when the sun was shining.²¹

Dry, clear weather conditions at Kaunakakai created an ideal situation for the use of a sun valve apparatus. The absence of fog in the Hawaiian Islands was an important factor contributing to the efficiency of sun valve systems.

La'au Point Light Station

A simple navigational light was located on the bleak, isolated western tip of Moloka'i at La 'au Point in 1882. Living conditions for a light keeper at this desolate spot were extremely difficult. The safe delivery of materials and supplies by ship was dependent largely on calm seas and was not reliable, especially during windy winter months. The original stone structure was replaced in 1906 with a box-like wooden tower supporting the beacon. In 1912, a new lighthouse was built close by at a slightly higher elevation. Then only a junior engineer, Fred Edgecomb was involved in the construction of the tower and installation of the new automatic acetylene light.²² It was one of the first of many of his field assignments on the outlying islands during his early years in Hawai'i.

Moloka'i Light Station—Kalaupapa

Through the years, the island of Moloka'i has become famous for its natural beauty, its tragic history dealing with the leper settlement, and its isolated lighthouse that was established in 1909. Although removed from the Kalaupapa settlement, the solitary light station and its personnel shared the same small landing area adjacent to the leper settlement. It was at this landing that all supplies and material for the

light station were delivered from Honolulu by ship, usually by the tender *Kukui*. My father arrived in the Islands just two years after the Moloka'i Light Station was constructed. He reported that a small warehouse at the landing was provided by the settlement exclusively for the use and storage of lighthouse supplies. Because there were health concerns at that time regarding the possibility of contracting Hansen's disease, all items destined for the light station were double wrapped in Honolulu before shipping. After arrival, the outer wrappings were removed before delivery to the lighthouse personnel. An observation taken from my father's recorded interview states:

Kalaupapa was an interesting place. We landed on the same dock where supplies went to the lepers, and we had to go through their settlement to get to our lighthouse. I used to go to Kalaupapa twice a year at first. This lighthouse was really more important than the light at Makapuu on Oahu because it was the landfall light (the first land sighted after a voyage) for ships coming from San Francisco. Later I increased the candlepower of the light until it was the strongest light in the Pacific.²³

While on assignment at Kalaupapa, there were times that my father was able to attend the movies at the local settlement theater. A balcony was reserved for non-lepers, and on occasion the lighthouse personnel were able to enjoy a welcome visit to the theater. He reported that he landed at Kalaupapa for inspections at least once a year during his lengthy lighthouse career.

ISLAND OF MAUI

Ka'uiki Head Lighthouse, Hana

Inter-island ships anchored for many years in the scenic bay at Hāna on the eastern point of Maui. The early navigational aid for vessels entering the bay consisted of a simple light mounted on a wooden pole atop a steep rocky islet. In 1909, it was identified as the Ka'uiki Head Light. A more efficient beacon became necessary, and in 1914 a small 14-foot concrete tower with an automatic light was constructed.²⁴ Gas for the light was piped from the service house below to the tower at the top of the tiny island. Edgecomb was involved in the

construction at the light station. It was there that he first became acquainted with Light Keeper Manuel Ferreira who served at Hāna from 1908 to 1913. Through the years, my father and Ferreira worked together at various light stations in the Islands. Ferreira was a conscientious, able light keeper throughout his 34-year career with the Lighthouse Service and was well thought of by all who knew of his loyal dedication. The light on Ka'uiki Head became obsolete when the Inter-Island Navigation Company ceased to exist.²⁵

Molokini Light

Molokini is the remaining portion of an extinct volcanic crater located off Maui's western shore. Despite its isolation, and the fact that it has no inhabitants and little vegetation, this barren rocky islet provides an interesting piece of Hawaiian history. Built in 1910, the small light on the crest of the crater had the unique distinction of being the first automatic acetylene light installed in the Hawaiian Islands. According to my father, the light operated for 18 years without failure. He wrote: "It was the only automatic light in the 19th Lighthouse District in the Hawaiian Islands when I arrived in 1911. Ninety-three percent of all lights were automatic when I left Hawaii in 1942."²⁶ The original framework of the tower was replaced in 1925 with my father on the job.

Kahului Breakwater Light

As commerce increased among the islands, the demand for improved lighting was apparent. An extended breakwater at the eastern entrance of the harbor enhanced the busy port at Kahului. A new steel tower was erected at the outer end of the breakwater in 1917. My father traveled to Maui to aid with the construction (fig. 4).

ISLAND OF HAWAI'I

Keahole Point

The western shores of the Big Island include a vast area of coastline requiring adequate lighting for all passing vessels. In 1915, lights were established at Māhukona, Kawaihae, and Keāhole Point. All were con-

crete towers housing automatic acetylene lights. One of my father's accounts of an experience that occurred while on the construction crew at Keāhole was recorded during a taped interview. After setting the stage by describing the process of loading the tender *Kukui* with building material and supplies in Honolulu, and crossing the rough channels to get to Hawai'i, he related:

The landing area was a very inadequate wharf at Kailua-Kona. From the landing it was necessary to transport the material for a 30-foot reinforced concrete light along a rough lava strip with an undefined trail. We covered two and one-half miles under the tropical sun, which seemed equivalent to transportation in the desert. We were greatly pleased to find a grove of coconut trees at the end of the trip. The Hawaiian workers were soon in the trees breaking out the coconuts and opening them for the cool, refreshing milk. As the work progressed, which covered a considerable period of time due to the slow



FIG. 4. Kahului Breakwater Light, Maui, 1917. A new 32-foot steel structure replaced the old tower on the extended breakwater in the harbor. Edgecomb collection.

transportation and lack of manpower, we ultimately reached the top of the tower.

One day while I was installing the illuminating apparatus I happened to see some of the Hawaiian boys who were off duty in a large blow hole created by an old lava flow at water's edge. The boys were actively engaged in removing some of the abundant opihi shells from the blowhole. They had descended lower than they expected, I imagine. Suddenly a large wave came in from the ocean—came through the blowhole and lifted them off the edge of the rock. The wave action and undertow carried one of the boys through the rugged lava tube and bounced him back into the open ocean. I could see this well from the top of the tower. We all dashed over, recovered the boy and found that he was in good shape except for a few minor scratches.²⁷

Laupāhoehoe Point Light

The eastern shore of Hawai'i often experiences violent storms, strong winds, and high waves, making landings at the Laupāhoehoe peninsula perilous, if not impossible. In the early days, *Kukui* dropped anchor just offshore and a small cargo boat was deployed to the rocky landing with men and supplies. Timing was crucial in catching the right wave to make a safe landing. The concrete tower with accompanying automatic acetylene light, built in 1915, joined its three new sister towers on the western coast of Hawai'i. Edgecomb was involved in establishing all four of these lights. Within one productive year, the aids to navigation were dramatically improved in Hawaiian waters.

A devastating tidal wave struck Laupāhoehoe on April 1, 1946, not only causing a tragic loss of life on the peninsula, but also completely destroying the lighthouse. A wooden skeleton tower standing 36-feet-high on the rocky shore took the place of the faithful old concrete sentinel.

Cape Kumukahi Light Station

The extreme eastern point of land on the island of Hawai'i, Cape Kumukahi, had long been under consideration as a location for a light beacon. As early as 1908, the Lighthouse Board made requests for a landfall light as an important aid to navigation for ships approaching the Islands from the south and east. The opening of the

Panama Canal created additional shipping concerns along with an increase of commercial travel in Pacific waters. However, it was not until 1929 that a lighthouse was finally built at Cape Kumukahi. It was a 32-foot tower with an automatic acetylene gas light capable of providing visibility of only 12 miles at sea for approaching vessels. The vital importance of this light became evident within a few short years, and improvements were initiated to convert the facility to a primary lighthouse. A tall, steel skeleton tower, rising 110 feet above the lava rock, was established in 1934. Two 36-inch airway beacons were installed that operated one at a time, reserving one beacon as a replacement if needed (fig. 5).²⁸

My father was directly involved with the planning and establishment of both the old and new towers at Cape Kumukahi. The modern steel structure, the tallest in all the Islands, was designed to with-

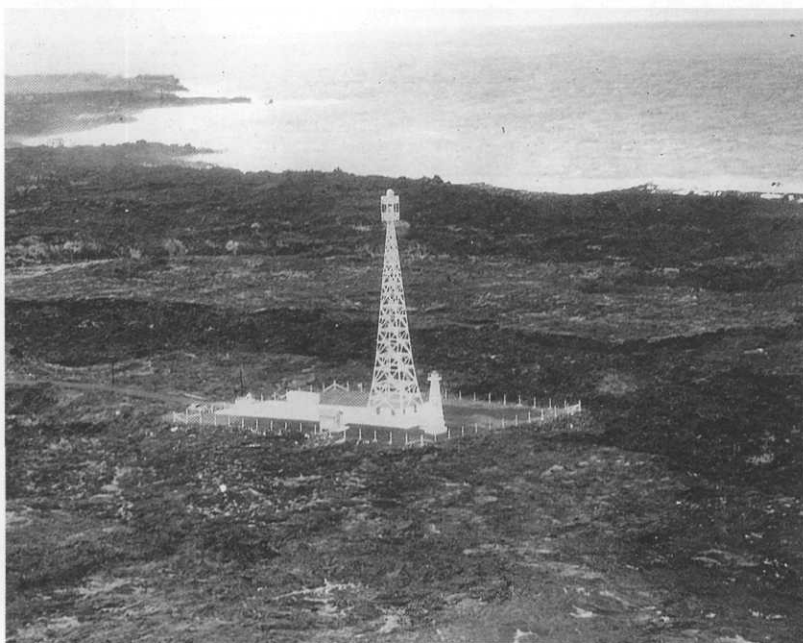


FIG. 5. Cape Kumukahi Light Station on the Big Island, *circa* 1934. The 32-foot wooden tower built in 1929 is dwarfed by its replacement, a steel structure rising 110 feet above the surrounding lava flow. Edgecomb collection.

stand the threat of earthquakes and potential lava flows in the area. In 1960, a spectacular volcanic eruption took place on the Big Island. One dramatic event in lighthouse history occurred at Cape Kumukahi. A destructive lava flow engulfed the buildings at the light station, laying waste to everything in its path. Miraculously the lava parted at the base of the lighthouse itself, leaving the tower unharmed.

THE LIGHTHOUSE TENDER *KUKUI*

It is important to give credit to the tender *Kukui*, an extremely valuable ship used in the development of lights in the waters of the Hawaiian Islands. *Kukui* was built in Camden, New Jersey, for the United States Lighthouse Service in 1908. She was launched in 1909 and made the long journey around the Horn to begin her lengthy career in Hawai'i.²⁹ Ironically, *Kukui* and my father followed similar paths throughout the years. Both shared the heritage of an East Coast background, both worked with the Lighthouse Service during approximately the same time period, and together they shared many seafaring miles and adventures in Hawaiian waters. *Kukui* was considered the workhorse of the 19th Lighthouse District. As mentioned previously, she not only delivered equipment, building material, and supplies to all of the islands, but also was used to install and maintain vital buoys and markers in all of the busy harbors. Another function *Kukui* performed was that of a passenger vessel as she continually transported lighthouse personnel in their travels among the Islands. Yearly inspections of all lights were made possible by means of this busy ship. Her home was at the Lighthouse Depot located at Pier 4 in Honolulu harbor. *Kukui* was decommissioned on February 1, 1946, after faithfully serving Hawaiian aids to navigation for 37 years.³⁰

THE EDGECOMB FAMILY

Fred Edgecomb and May Sutherland were married in 1919. May was the daughter of Clara Moseley (Cooke) Sutherland and was the granddaughter of Sophia Bingham. Sophia, born in 1820, was the first Caucasian girl born in Hawai'i. Hiram and Sybil Bingham were her parents.

May and Fred raised three daughters, Sybil born in 1920, Eleanor

in 1925 and Carol in 1927. When Edgecomb became the superintendent of lighthouses in 1930, the family moved to Diamond Head and shared the spacious grounds with the famous lighthouse. It was a magical environment for three young girls. My father's responsibilities and trips frequently kept him away from home, yet he was a devoted father who always found time for his family. Often when he returned from work he would join us, accompanied by our resident dog, for a late afternoon swim below the lighthouse. He built two deluxe tree houses for his girls that were located in a sprawling hau tree. Our beloved open lānai with a spectacular view of the ocean was a favorite spot for games, picnics, and for curling up with a good book. Many cherished memories are associated with my delightful childhood spent with the Diamond Head Lighthouse as my neighbor (fig. 6).

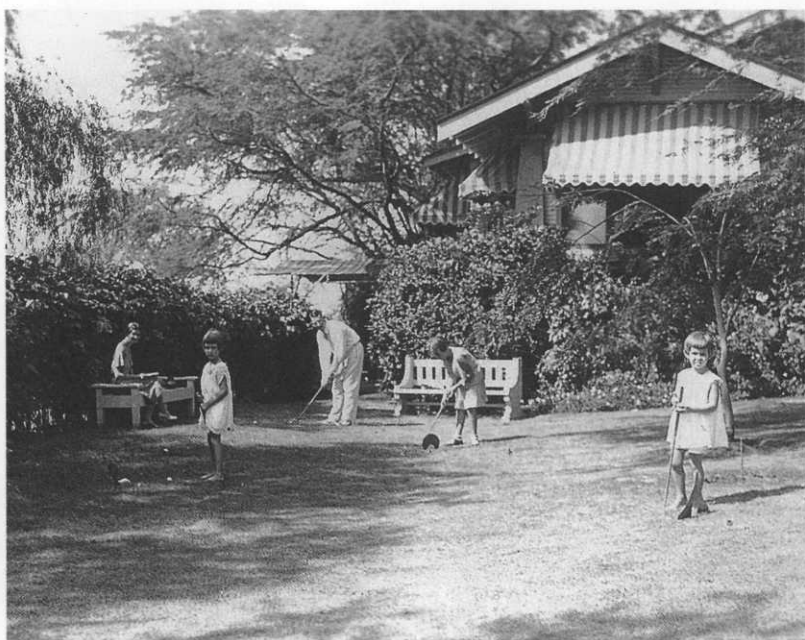


FIG. 6. The Edgecomb family at the Diamond Head Lighthouse playing a game in their yard in 1932: (left to right) May seated, Eleanor, Fred, Sybil, and Carol. Edgecomb collection.

CONCLUSION

Although sophisticated aids to navigation protect Hawaiian waters at present, some rare glimpses of the early days give us an opportunity to appreciate our heritage. Fred Edgecomb's contributions to the development of Hawaiian lighthouses should not be overlooked. By selecting several photographs and notes from his personal files, the author has chosen to create a tribute to one of many talented men who were pioneers within the Hawaiian Lighthouse Service. My father's lifelong fascination with the ocean, combined with his love of poetry is evident in the following excerpt. It is the last verse of one of his favorite poems that he frequently quoted entitled *The Lighthouse*.³¹

The lighthouse has no special friends,
No special foes when night descends,
In all the earth the only place,
Though statesmen talk and kings embrace,
Where man becomes one common race.

His conscientious dedication to his career in the Lighthouse Service is reflected in his statement, "I thought I was doing a good job by working for the lighthouse service because I was serving everybody."

NOTES

- ¹ Frederick Edgecomb, personal interview, La Canada, California, 1968.
- ² Edgecomb, interview.
- ³ Edgecomb, interview.
- ⁴ Edgecomb, interview.
- ⁵ Edgecomb, written comments. In author's possession.
- ⁶ Love Dean, *The Lighthouses of Hawai'i* (Honolulu: U of Hawai'i P, 1991) 42.
- ⁷ Edgecomb, interview.
- ⁸ Edgecomb, interview.
- ⁹ Edgecomb, comments.
- ¹⁰ Edgecomb, comments.
- ¹¹ Edgecomb, comments.
- ¹² Department of Commerce, *Lighthouse Service Bulletin*, vol. III, No. 10, October 1, 1924.
- ¹³ Frederick A. Edgecomb. Kaula Island: Memorandum of Visit to Island, July 10-21, 1925: 2.
- ¹⁴ Edgecomb. Kaula Island 1. Historically, there have been conflicting measurements of lighthouses. Robert S. Schmitt, retired State Statistician and former

chairman of the Hawai'i State Board of Geographic Names, has provided the heights of 548 feet and 698 feet for Ka'ula and Lehua respectively. He cites as his authority the U.S. Geographic Survey.

¹⁵ Department of Commerce, *Lighthouse Service Bulletin*, vol. III, No. 22, October 1, 1925.

¹⁶ Edgecomb, Kaula Island 3-4.

¹⁷ Edgecomb, comments.

¹⁸ Department of Commerce, Lighthouse Service, Notice to Mariners from Superintendent Edgecomb, Aug. 17, 1932.

¹⁹ George Putnam, Department of Commerce, Bureau of Lighthouses, Washington, D.C., letter to Edgecomb, October 18, 1932.

²⁰ Edgecomb, interview.

²¹ Edgecomb, interview.

²² Edgecomb, comments.

²³ Edgecomb, interview.

²⁴ Dean, *Lighthouses of Hawai'i* 70-71.

²⁵ Edgecomb, comments.

²⁶ Edgecomb, comments.

²⁷ Edgecomb, interview.

²⁸ Dean, *Lighthouses of Hawai'i* 125.

²⁹ Edgecomb, comments.

³⁰ Edgecomb, comments.

³¹ Source unknown.